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6 February 1985

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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OFFICIALS ACCUSED OF DISINTEREST IN TELECOMMUNICATIONS

Hong Kong SOUTH CHINA MORNING POST in English 14 Dec 84 Business News p 3

[Excerpts]

Hongkong's legislators and bureaucrats have little understanding of telecommunications and show scant interest in developing the industry.

Retiring managing director of Hongkong Telephone, Mr Eric Walker, told a gathering of the Telecommunications Users Group of the Hongkong Management Association yesterday that the territory's industry continued to be over-regulated.

Hongkong Telephone's charges are restricted in the sense that they are subject to legislation, "and I need not tell you how long it can take to get the cost of a new telephone approved by a very busy Legislative Council."

Mr Walker, who has been managing director of Hongkong Telephone for 11 years, said that during his tenure he arranged numerous seminars and meetings to explain the intricacies of telecommunications to Government, but to no avail.

"They were not interested in a subject so mundane as telecommunications, not understanding the size and importance of the industry.

"After many years of negotiation, in January last year legislation was enacted, at Hongkong Telephone's instigation, which removed from the franchise all except basic telephone services."

Mr Walker said the result of this legislation was to enable Hongkong Telephone to compete with other suppliers of the growing range of customer equipment.

"With the removal of customer equipment from the franchise came other changes. Hongkong Telephone, which remains the network provider, ceased giving type approval in favour of 'permission to connect.'

"In essence, this is granted to equipment that is safe and compatible to the network. No longer are we concerned with facilities, with installation or with maintenance — this is now between the customer and supplier.

"Buyer beware!"

Mr Walker said the removal from Hongkong Telephone's franchise of competitive products and services, and the introduction of plugs and socket services "has had a stimulating effect on the telecommunications equipment supply industry."

He said the range of equipment was growing almost daily, and "at prices that a few years ago would not have been thought possible."

According to Mr Walker one of the more exciting recent developments has been the introduction of locally-made telephones and accessories.

CSO: 5540/013

BROADCAST REVIEW BOARD OPENS DELIBERATIONS TO PUBLIC

Hong Kong SOUTH CHINA MORNING POST in English 14 Dec 84 p 25

[Text]

The Broadcasting Review Board is to open its deliberations and make itself available in public to hear in more detail views of those who have commented on the future direction of Hongkong's broadcasting services.

From Monday, the board will hold public hearings in the Urban Council chambers at Edinburgh Place to consider public comments it has received.

Members of the public are welcome to attend these open hearings, which will be conducted between 9 am and 1 pm on weekdays up to the end of next month.

Hearings will not be held on December 27, 28 and 31.

All who have made representations to the board and indicated a willingness to attend the public hearings have been invited to appear to elaborate on their original submissions and to hold discussions with board members.

Representations have been made by the television and radio licensees, education bodies, religious groups, welfare organisations, district boards, Government departments, interest groups, as well as concerned members of the public.

The review board panel will comprise the chairman, Mr Justice Power, the Commissioner for Television and Entertainment Licensing, Mr Robert Sun, the Attorney-General's representative, Mr Peter Allan, and the board secretary, Mr Anthony Cooper.

Other members of the board will sit on the hearings panel in rotation.

The Broadcasting Review Board was set up in February to conduct a comprehensive review of television and radio broadcasting, and to recommend an overall policy for the future development of broadcasting in Hongkong.

In April, it invited individuals and organisations with an interest in broadcasting to submit their views in writing. It received 233 representations, totalling more than 2,000 pages, including 173 from individuals.

CSO: 5540/013

DETAILS ON PERFORMANCE, COST OF NEW DATAPAK REPORTED

System Capabilities

Hong Kong SOUTH CHINA MORNING POST in English 23 Dec 84 p 35

[Text]

TECHNICAL people love rattling off figures which leave the great unwashed (which is how they regard the rest of us) totally bemused.

One way of measuring the speed that information is sent is in the baud rate which is the number of bits of information sent down the line in one second.

A bit is the smallest finite amount of information a computer can understand.

A telex machine rattles along like an arthritic drummer beating the retreat at a speed of 50 baud.

Standard telecommunications for microcomputers has, for some years, been at 300 baud. Which is about as fast as a normally literate person can read.

Twelve-hundred baud is four times as fast and is currently about as fast as most microcomputers will chug along, sending information to each other over the wires.

This is 24 times as fast as a telex and is now pretty much the standard for microcomputer telecommunication.

Many business minicomputers, however, will happily work at 2400 baud for telecommunications which is twice as fast again.

But this is tortoise stuff compared with what Datapak can do when it puts its mind to it.

Within Hongkong, on a direct link to Datapak, the standard will be 56K baud (K being a shorthand and slightly inaccurate way of expressing a thousand in computerese and baud standing for bits per second). Which is about 1,320 times faster than telex.

To get this into perspective, at this speed you could send the contents of the average novel from one point to another anywhere in Hongkong in something between 10 to 15 minutes.

On international hook-ups the speed will initially be restricted to 9.6K baud, but that is still 192 times faster than telex speed.

The cost for transmission within Hongkong will be HK$3.50 per hour plus HK$4 per 64,000 bytes — about HK$1 for 2,500 words.

Which means that in a normal financial transaction such as using a bank card at the supermarket, the cost will be less than five cents, which is on a par with normal world prices for this sort of electronic transaction. And it is this low price that makes the exercise cost-effective.

The cost of transmission internationally will be HK$1 a minute plus HK$1 for each 640 bytes of informaion. 640 bytes is roughly the amount of information that fills up one computer screen.

This charge is about a tenth the cost of an International Direct Dial call when used for transmitting computer information.

Flexibility Features

Hong Kong SOUTH CHINA MORNING POST in English 23 Dec 84 p 35

[Text]

HONGKONG Telephone is not supplying an information system, it is not supplying a storage system, it is supplying a means of sending information from one point to the other.

The system chosen has already been well proven in use in Canada and West Germany so that from the word go there will be no shortage of hardware and software available to allow you to link up through Datapak.

Datapak will work with most of the different ways which exist — a modern Tower of Babel — for hurling information from computer to computer.

Worth knowing, is that there is an international communications body called CCITT that tries to set world standards.

The United States and Canada are both members of CCITT, they agree that it is A Good Thing, and support it by using a totally different set of standards called Bell.

Never mind. Datapak is clever enough and flexible enough to deal with almost any communications protocol currently in use.

Most microcomputers and, as far as I can ascertain, all minicomputers can link into Datapak with consummate ease. But, the manager of the department responsible for Datapak, Dave Connolly, advises strongly against this.

A line specifically set up for Datapak called a Datel line linked into your computer costs HK$50 a month more to rent than an ordinary business line. That extra charge brings peace of mind.

Hongkong Telephone guarantees that it will be connected to an electronic exchange wherever you are in Hongkong and, if you have trouble, it will be there to offer aid and assistance and protect its own reputation.

If you insist on using an ordinary telephone line you will be left to your own devices when something goes wrong.

And in telecommunications, Murphy's Law applies as in every other area of life.

Mr Connolly says that if you are using Datapak for business purposes, you would be mad not to have a Datel line.

I agree with him.

CSO: 5540/013

FUNCTIONS OF NEW DATACRAFT MODEM DESCRIBED

Hong Kong HONGKONG STANDARD in English 27 Dec 84 Business Standard p 3

[Text]

DATACRAFT Hongkong has introduced a new high speed modem that can guarantee that datacommunications between remote terminals and computers and inter-computer communications are accomplished completely without risk of transmission errors.

The new Concord V.22 ARQ manufactured by the US-based Concord Data Systems is a full feature 2400 bit per second, full duplex modem with an integral error correction function (ARQ) and optional autodial capabilities.

"Because the quality of the line cannot be guaranteed for dial-up connections, the ARQ error correction feature is particularly useful in ensuring that the correct message is transmitted and received regardless of the line quality," said Mr Richard Duval, Marketing Manager, Datacraft Hongkong.

"With a very poor connection, this modem also has an automatic fall-back to a 12000 bps rate for communicating more clearly on bad lines," he explained.

Growing reliance

"With the growing reliance on datacommunications in business, this guarantee of the integrity of data is becoming increasingly important," Mr Duval said.

The Concord V.22 ARQ receives information from the computer or terminal to which it is connected and stores it in its internal buffer in the form of small "packets" of data. The information is transmitted to the receiving ARQ modem a packet at a time.

The receptor modem analyses each packet and if there are errors the V.22 ARQ discards that packet and sends back an automatic request for that particular batch of data to be sent again.

An automatic adaptive equaliser is built-in to the Concord V.22 ARQ which adapts to prevailing conditions, ensuring optimal data-transmission performance even on the most marginal of telephone lines.

The modem compensates for distortion introduced by line faults, which results in a far superior bit error rate performance and an end-to-end error-free transmission of data.

Techniques

The advanced signal processing techniques are a result of highly sophisticated software developments rather than complex hardware, meaning that the V.22 ARQ modem has a lower number of internal components than is usual in so sophisticated a device. This means that reliability is greatly increased and power consumption is significantly reduced.

"Dial-up datacommunications has always been the weak link in the datacomms field, primarily because of the variable quality of lines and the resultant unreliability of data sent over those lines. With the Concord V.22 ARQ, dial-up can now match the quality of leased line communications," said Mr Duval.

Datacraft Hongkong is a supplier of leading-edge technology solutions with a range of innovative and unique products for the fields of datacommunications, telecommunications and computer related systems and services. The company's Australian parent is also a leading manufacturer of datacommunications equipment.

CSO: 5540/013

PRC TO IMPROVE TELECOMMUNICATIONS IN SPECIAL ZONES, OPEN CITIES

HK040520 Beijing ZHONGGUO XINWEN SHE in Chinese 0938 GMT 2 Jan 85

[ZHONGGUO XINWEN SHE headline: "China Speeds Up Construction of Telecommunications in Open-Door Cities and Special Economic Zones"]

[Text] Beijing, 2 January (ZHONGGUO XINWEN SHE)--China's posts and telecommunications departments have decided to speed up the construction of telecommunications in the 14 open-door coastal cities and the special economic zones so that their long-distance telephones can be equipped with automatic dialing systems as soon as possible and can incorporate a telex function so that the difficult telephone communications in these cities can be improved.

This year China's open-door coastal cities and special economic zones will be equipped with more than 230,000 urban telephone automatic switchboards, of which more than 205,000 switchboards, or 89.4 percent, will be imported from abroad.

By the end of this year the current number of automatic distance dialing subscribers in Tianjin, Shanghai, Fuzhou, and Zhuhai will be further increased; the automatic distance dialing system will be adopted in Guangzhou, Xiamen, and Shenzhen; and the number of telephone sets will be increased and the speed of manual connection will be accelerated in Dalian, Qinhuangdao, Yantai, Qingdao, Lianyungang, Nanton, Ningbo, Wenzhou, Shantou, Zhanjiang, and Beihai, as well as on Hainan Island. Efforts will be made to begin direct-distance dialing call in these cities and region by the end of 1986.

The medium coaxial wire netting for the main lines between Beijing, Hankou, and Guangzhou; the small coaxial cables for the main lines between Jinan and Qingdao, Hangzhou and Fuzhou, Nanjing and Shanghai, Shantou and Xiamen, and Shenyang and Dalian; and the main microwave lines between Shenyang and Dalian, Quangzhou, Zhanjiang, and Haikou, Shantou and Guangzhou, Shanghai and Nantong, and Hangzhou and Ningbo have all been included in the plans on technical reform of the state and the Ministry of Posts and Telecommunications. They will be put into operation by the end of this year.

China's posts and telecommunications departments will also start the construction of the following projects this year: The small coaxial cable project between Pingdu and Yantai, the submarine cable or microwave project between Yantai and Dalian, and three microwave projects between Nanning and Beihai, Xuzhou and Lianyungang, and Haikou and Sanya. These new projects, except for submarine cables, are expected to go into operation by the end of this year.

CSO: 5500/4183

FINNISH FIRM GETS DIGITAL PHONE NET EQUIPMENT CONTRACT

Helsinki HELSINGING SANOMAT in Finnish 9 Nov 84 p 37

[Article: "Telenokia Initiates Export to China"]

[Text] Telenokia [Nokia Telecommunications] will supply China with digital telephone technology. The first Chinese shipment will comprise 12 units of 30-channel digital exchange systems which will improve the quality of the calls and reduce disturbances.

The order is the first Telenokia sale to the Chinese People's Republic.

The systems will be delivered to Zuhai which is in Canton province. The million-mark order consists of cable and channel equipment operating between two telephone exchanges.

Telenokia export chief Mikael von Hertzen considers the order a significant breakthrough into a new market area for his company. He speculates that the order received now and the interest aroused at the ChinaComm 84 exposition held in November in Beijing can forecast a rosy future for Telenokia.

Presently there are only about 5 million telephones in China. As part of the broad Chinese industrialization and modernization work, a goal has been set to increase the number of telephones in China to 35 million by the year 2000. At present telephones are used mainly in business and by the government. The Chinese phone density is 0.5 percent compared to a range of 50-60 percent in industrialized countries. The Finnish phone density is 55 percent.

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CSO: 5500/2547

REN ZHONGYI URGES IMPROVING GUANGDONG'S TELEPHONE SYSTEM

HK230637 Guangzhou NANFANG RIBAO in Chinese 20 Dec 84 p 1

[Report by Reporter Liu Gaohua: "Comrade Ren Zhongyi Says that Guangdong Should Learn From Fujian and Improve its Telephone System"]

[Text] Recently, Ren Zhongyi, first secretary of the Guangdong Provincial CPC Committee, said that the telephone system of Fuzhou is far more advanced than that of Guangzhou. Fuzhou has renewed its telephone equipment and improved its management. Their telephone calls can be put through quickly and the acoustic quality of their telephones is also very good. Guangdong should learn from Fujian and work hard to accelerate the construction of its telephone system.

Comrade Ren Zhongyi made these remarks on the 8th of this month when he was talking on a digital telephone call directly put through from Fuzhou to the comrades concerned of the Guangdong Provincial CPC Committee. While he was talking on the telephone, his voice was loud and clear. Ren Zhongyi said that the telephone system of Guangdong has lagged behind and is very unsuitable for the development of the course of the four modernizations, so Guangdong should learn from Fujian and try to improve its telephone system.

According to our reporter's report based on relevant sources yesterday: The computerized digital telephone systems imported from Sweden by Guangzhou and Shenzhen of our province are now under rapid construction. Six thousand out of 10,000 digital telephones imported by Shenzhen were connected on the 9th of this month. The 26,000 digital telephones imported by Guangzhou have now already entered the final stage of their construction. The construction of a 5,500 square meter generator room in which the main engine will be installed was completed a few months ago. The engine frame has been erected and the projects of the underground electric cables and pipelines have been partly completed, while the installation of half of the equipment has been completed. It is predicted that the telephone system can be connected and in use in the first quarter of next year. By that time, the number of telephones in Guanghzou will have increased from the present over 30,000 sets to over 50,000. What is more, some economically developed counties and cities in the Zhu Jiang delta are also planning to actively develop their program control telephone in the next few years.

CSO: 5500/4180

MEETING HELD TO TURN OVER GROUND SATELLITE STATION

HK240325 Lhasa Xizang Regional Service in Mandarin 1130 GMT 23 Dec 84

[Excerpt] The meeting room of the No 1 hostel of Xizang Military District presented a lively scene on the afternoon of 23 December, as the meeting to hand over the Lhasa ground satellite station concluded. Leading comrades of the party, government, and Army in the region, Yin Fatang and Wang Xinqian, and (Li Li), deputy director of the Signals Department of the PLA General Staff Department, attended the closing ceremony. Also present were responsible comrades of the Ministry of Radio and Television, Lhasa City CPC Committee, the Xizang Regional Radio and Television Bureau, the Signals Department of Chengdu Military Region, the Signals Section of Xizang Military District, and the Lhasa ground satellite station, together with representatives at the meeting, totalling over 400 persons.

(Tang Rong), adviser to Xizang Military District, read out a cable from (Wang Shiguang), vice minister of the Ministry of Electronic Industry. In his cable he extended warm congratulations on the successful conclusion of the meeting to hand over the Lhasa ground satellite station. Jiang Cuo, vice chairman of the regional government, and responsible persons of the satellite station then presented brocade banners and awards to units that had built the station. This meeting was jointly held by the Signals Department of the PLA General Staff Department, the Ministry of Electronic Industry, and the Ministry of Radio and Television. The meeting lasted 3 days. The participants seriously listened to relevant reports and checked on the equipment and communications condition of the station. They unanimously held: The Lhasa ground satellite station has been constructed rapidly and the quality is good. Apart from bringing good news to the people of Xizang, it also provides China with experience in construction and scientific experiment in this field.

Speeches were made at the closing ceremony by Qie Jinwu, adviser to Chengdu Military Region; Jiang Cuo, vice chairman of the regional People's Government; and (Jiang Hongquan), commander of Xizang Military District.

CSO: 5500/4180

EFFORTS POOLED TO DEVELOP COMMUNICATIONS

OW281228 Beijing XINHUA in English 1219 GMT 28 Dec 84

[Text] Beijing, December 28 (XINHUA)--China is mobilizing central, local, collective and individual resources to develop telecommunications and posts. The aim is to improve information exchange and mail delivery, said the Ministry of Posts and Telecommunications here. For 35 years China has relied for this on state investment.

The governments of Shanghai, Tianjin, Guangdong, Shandong, Shanxi, Jilin and Sichuan have allocated substantial funds.

The system involves investment by users. The Beijing Tourism Bureau co-invested in the import of 7,500 program-controlled telephones for priority use of them for new hotels in the city's eastern suburbs.

Users in Shandong, Jiangsu, Shaanxi, Gansu and Shanghai followed suit. Four of the eight telecommunications projects for the Sixth Five-Year Plan in Fujian were funded in this way. Foreign capital is another source of increased investment.

In rural Shandong, Jilin, Liaoning and Shanxi 370 villages bought telephone switchboards. Peasants in mountainous areas of Anhui Province and herdsmen on the Inner Mongolian grasslands have taken jobs as postmen under contract.

CSO: 5500/4180

HEBEI HOLDS CONFERENCE ON RADIO, TELEVISION WORK

HK060639 Shijiazhuang Hebei Provincial Service in Mandarin 0430 GMT 29 Dec 84

[Text] When speaking at the fifth provincial conference on radio and television on 27 December, Gao Zhanxiang, secretary of the provincial CPC committee, stressed that the party committees and government departments at various levels and the departments responsible for radio and television should show determination and dedication in reform and try to achieve first-class results with all efforts, so as to make the radio and television of Hebei Province comparable to those of the advanced units of the country as quickly as possible.

Comrade Gao Zhanxiang said that since the implementation of the spirit of the instructions of the CPC Central Committee in 1983 on the development of radio and television, the radio and television of our province has seen some new development, our work has shown new improvement, new progress has been made, and new achievements have been scored. The cadres now have a much better understanding of the importance of developing radio and television. The joint management of radio, television, and combined radio and television coverage at the provincial, prefectural, municipal and county levels has had a good beginning. The radio and television ranks have been reinforced and consolidated. A number of advanced units and individuals have emerged in the development of radio and television. These people have compiled and broadcast many excellent programs which have been greatly welcomed by the broad masses of people and have won state prizes. Our broadcast programs have been playing a special role in and making an excellent contribution to publicizing party policies, providing economic and technical information and knowledge of science and culture, as well as enlivening the cultural life of the people.

However, the standard of our programs is not high enough and our radio and television coverage is poor compared with other parts of the country. This situation lags far behind the times, does not suit daily life, and does not meet the needs of the people. It is also not adequate for the geographical location of Hebei Province, which surrounds the capital. The provincial CPC committee and the provincial government think that owing to the fast development of science, technology, and commodity production and the rapid exchange of all kinds of information at the present time, radio and television are very important in emancipating our

mind, widening our view, overcoming our political slowness and conservative ideology, and stepping up the construction of the two civilizations. We should therefore make up our minds to improve radio and television in our province.

On improving radio and television in our province, Comrade Gao Zhanxiang stressed that the party committees and government departments at various levels should practically strengthen leadership over radio and television, show determination and dedication in doing practical things, and try to achieve first-class results with all efforts in order to make the radio and television of our province comparable to those of advanced units of the country as soon as possible. On achieving first-class results in radio and television, Comrade Gao Zhanxiang proposed five points:

1. In order to achieve first-class results in radio and television, first of all, consciousness should be further raised and leadership should be strengthened. Comrade Gao Zhanxiang said that we should make the leaders in all the relevant departments understand more clearly the position and function of radio and television, so that our cadres' understanding of radio and television can be raised to the standard set by the party Central Committee. How can we really raise the understanding of and pay attention to radio and television? It is not enough to talk nicely; it is important to look at action. In practical work, we should act according to the following four points: 1) First of all, we should list the radio and television in the agenda of the party committees and government departments and make plans. At present, we should work day and night in making the plans for the year 1985, which must be studied by the party committees or governments of all the prefectures, cities, and counties, and written in the development plan of the national economy of 1985. All the counties and townships should make plans. 2) The party committees and government departments of various levels should adopt effective methods to solve practical problems long-standing problems in the development of radio and television, and practically solve such problems as capital, the organs, and conditions for the personnel, which concern all the staff. Counties that do not have radio and television bureaus should set up such bureaus. 3) Implement the policies by checking and supervising, reward the advanced, punish the backward, and set up models. The radio and television department must hold two meetings well in 1985: The first meeting will be held in the first half of the year, to praise and name advanced units and individuals and reward those who have made great contributions in radio and television. The second meeting will be held to help and encourage those who have lacked behind.

2. In order to achieve first-class results in radio and television, we should accelerate our pace in the development of radio and television and try to realize the goal set by the party Central Committee so that by 1987, broadcast programs can be received everywhere in the villages, townships and counties, and every household and everybody can hear the programs. At the same time, we should extend television coverage to most of the counties. We have put forward this slogan: Achieve first-class results and work hard to make new progress each year and become a first-class radio and television undertaking after 3 years of hard work.

3. In order to achieve first-class results, we must pay attention to selecting and training qualified personnel and form a vigorous radio and television contingent. 1) The leaders of the radio broadcasting and television departments should become vanguards of the radio and television contingent and first train themselves hard, to become qualified personnel who can lead the contingent forward and make contributions, and to become pioneers armed with knowledge, technology, professional ability, and pathbreaking spirit. In the meantime, the leaders should have the vision to recognize qualified personnel and the courage to use them, invite qualified personnel to join the staff and treat them according to their performances. 2) We should train qualified personnel through all kinds of channels and accelerate the practice of training and raising the quality of the editors, reporters, commentators, broadcasters, program directors, technicians, and administrators in the radio and television undertakings. 3) We should encourage and reward the cream of the talent, and launch activities in the radio and television of our province to reward those who have made contributions. 4) In order to achieve first-class results, all the departments concerned at the county, municipal, prefectural, and provincial levels should jointly run radio and television undertakings. In the year 1985, we should win great success with the joint efforts of the departments concerned at the four levels. So-called joint efforts of the four levels means that all the departments concerned at the four levels should provide money, qualified personnel, and strength. We should develop radio and television in the spirit of those who get profits, invest. First of all, we should encourage local organizations to invest in the development of radio and television. Second, we should encourage people to organize programs. Again, if all the four levels work jointly, the four levels will have the power to solve the practical problems in the devleopment of radio and television. 5) In order to achieve first-class results in radio and television, we should compile and broadcast programs which are welcomed by the masses in accordance with the pace of the times, that is, produce first-class radio and television programs. What are first-class programs? They are determined by the people's appraisal of them and by their educational role in the society, that is, they should be recognized by the people and society and can stand the trial of the time and the taste of the masses.

Comrade Gao Zhanxiang also said that in order to produce first-class programs, we should stick to the orientation of two services and the policy of making programs with great care, and try to realize six demands, five characteristics and four cares. The two services refering serving the building of the two civilizations and serving the 53 million people of our province; the six demands refer to demands for speed, truthfulness, simplicity, freshness, liveliness, and profoundity; the five characteristics refer to actual effect, aim, knowledge, art, and entertainment; and the four cares refer to gathering materials with great care, recording with great care, arranging with great care, and broadcast [with great care so] that our programs have the latest style, local characteristics, and the quality of serving the people. Only by having these can we bring the special function of radio and television into full play and also bring into full play the publicity, educational, stimulus, and entertainment functions of radio and television.

CSO: 5500/4182

HUBEI HOLDS CONFERENCE ON POSTS, TELECOMMUNICATIONS

HK231027 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 22 Jan 85

[Excerpts] The province must strive to increase the postal and telecommunications work by eight times, and ensure the quadrupling of the province's national economy by the year 2000. This was proposed by responsible comrades of the Provincial Administrative Bureau for Posts and Telecommunications at a provincial conference on postal and telecommunications work, which opened today.

Vice Governor Tian Ying attended the conference and made a speech. He urged the province's governments at various levels to support the postal and telecommunications work, and advocated running the undertaking jointly by the state, localities, collectives, and individuals, so as to create a new situation in the province's postal and telecommunications work.

Responsible comrades of the provincial administrative bureau for posts and telecommunications said: Recently, responsible comrades of the Central Secretariat and the State Council has pointed out, upon listening to the report of the Ministry of Posts and Telecommunications, that posts and telecommunications are basic facilities of the national economy, as well as the necessary condition for social development. In the present information, the undertaking plays a very important role. Therefore, we must attach great importance to the building of posts and telecommunications, and place its significance as equivalent to that of energy resources and transportation. We should give priority to its development, so as to promote the four modernizations as a whole. In order to achieve the eight-fold increase, we must strive to grasp well the work in the next decade. The provincial Posts and Telecommunications Bureau has formulated the seventh 5-year plan as follows:

The number of the province's telephone sets will total 550,000, or we should strive to increase the popularization rate of telephone sets from 0.46 to 1.07 percent. We should increase the number of long-distance lines in the province to 2,250, and introduce long-distance direct dialing to prefectures and cities. Also, we should increase our handling capability to 2.2 billion pieces of mail per year, and build 300 new telephone trunk lines in the rural areas and 30,000 automatic telephone sets in districts and townships. In order to achieve the above-mentioned goals, the following measures have been formulated:

First, we should rectify the professional guiding ideology, and smash the old convention of monopoly. Instead, we should raise funds through various channels and levels; and the state, collectives, and individuals should jointly run the undertaking.

Second, we should strive to improve the economic results and increase the accumulation of [words indistinct] in posts and telecommunications.

Third, we should carry out technical transformation and develop the present telecommunication network in an emphatical and systematic way.

Fourth, we should really do well in building the contingent of workers.

Fifth, we should streamline the organizational structure and decentralize decisionmaking powers.

CSO: 5500/4185

BRIEFS

NEW FM STATION IN LIAONING--After more than a half year of voice modulation tests, trial broadcasts, and various other preparations, the Heishan FM radio station formally began broadcasting on 1 January 1985, with the approval of the provincial radio and television broadcasting department. [Shenyang Liaoning Provincial Service in Mandarin 1030 GMT 3 Jan 85]

JILIN TV TRANSMISSION TOWER--After 5 months of strenuous efforts, the transmission tower of the Changchun TV station, which is located on (Baicao) Road in Changchun City, was completed on 17 December. A ribbon-cutting ceremony marking its completion was held this afternoon. This tower was constructed by the Beijing Broadcast Equipment Plant. It is 230 tons in weight and 181 meters in height. The Changchun TV station will use it to transmit programs through Channel 9. The Changchun TV station will go into trial operation on 1 October 1985. [Summary] [Changchun Jilin Provincial Service in Mandarin 1030 GMT 27 Dec 84]

SHANGHAI TELEGRAPH SYSTEM--Shanghai, 30 Dec (XINHUA)--China's first computer-controlled 256-line automatic exchange telegraph exchange system was put into operation at the Shanghai Municipal Telegraph Bureau in late December. Designed by the municipal telegraph bureau, the automatic telegraph exchange system can handle a total of 200,000 telegrams daily. [Beijing XINHUA Domestic Service in Chinese 1153 GMT 30 Dec 84 OW]

CSO: 5500/4185

PLANS TO EXPAND INTERNATIONAL COMMUNICATIONS

OW271235 Taipei CNA in English 1010 GMT 27 Dec 84

[Text] Taipei, 27 December (CNA)--The government has decided to invest 70 million U.S. dollars in the construction of four undersea cable systems through joint ventures with foreign parties. It is also planning to create direct satellite circuits connecting the Republic of China with more than a dozen other countries over the next 5 years, according to the Directorate General of Telecommunications (DGT).

The expansion of international communications networks is expected to play an important role in promoting the nation's economic and business developments. In view of this, according to a DGT official, the government has in recent years endeavored to diversify the nation's external networks so as to enable more efficient and faster transmission of information.

The planned cable systems include:

A system connecting Taiwan to Hong Kong and Singapore and scheduled to be completed by October 1986;

an Australian-Indonesia-Singapore system that can be connected to the Taiwan-Hong Kong-Singapore system and others, expected to be ready for use by October 1986;

a Singapore-Asia-Europe system connecting Taiwan with Europe, Africa and the Middle East through the Taiwan-Hong Kong-Singapore system, expected to be operational by June 1986;

And the Hawaii No 4 and Transpacific No 3 system, which extends from the continental United States and Hawaii to Japan and Guam.

Additionally, the ROC Government plans to create, within 5 years, direct satellite circuits reaching some dozen countries, including Greece, Nigeria, Iran, Turkey, Paraguay, Costa Rica, and several nations in Northern Europe. This will increase to 50 the number of countries with direct circuit connections with the ROC.

CSO: 5500/4184

CABLESHARE TESTING ELECTRONIC MARKETING SERVICE

Toronto THE TORONTO STAR in English 17 Dec 84 p B1]

[Article by Ann Auman]

[Text]

Cableshare Inc. is hoping to put shopping into homes with cable television if a U.S. test of the service is successful, the company's president said at its annual meeting.

The 11-year old diversified electronic marketing and communications company that went public three years ago showed off its new shop-at-home service to shareholders in Toronto.

The electronic marketing service will be tried out in the United States next year. If successful, the service could be commercially available on American cable television stations in a year, and later in Canada, said Terry Pocock, president of Cableshare.

Punching numbers

Consumers with cable would be able to see demonstrations of more than 30,000 products on their televisions, order the products by punching numbers into their telephones, pay for them with credit cards and have the products delivered to their homes.

The service would be paid for by retailers and would show details about products, including prices, Pocock said.

Cableshare had two rocky years financially when it lost almost $2 million in each of 1982 and 1983 because of research and development costs, but the company posted a profit of $1.83 million in the year ended Aug. 31, which Pocock called a "turnaround year" for the firm.

For the first quarter ended Nov. 30, profit was $169,000, or 5 cents a share, compared with $31,000, or 1 cent a share, in the same period a year earlier. The latest period includes a $130,000 tax credit.

Revenue was $3.5 million, up from $2.9 million in the same period a year earlier.

"Throughout 1985, growth in communications and electronic marketing should be substantial, replacing lost revenues in the business systems division," Pocock told shareholders.

Electronic mail

The business systems division, which provides computer time-sharing and custom software programming to manufacturers and retailers across Canada, lost revenue when Rogers Cablesystems withdrew and set up its own computer system. Rogers owns 37 per cent of Cableshare.

The division's bright star is its electronic mail software, called Mercury, which will be able to link users around the world. It will be run on a new microcomputer — the MicroVax II — to be introduced by Digital Equipment next summer, said Pocock.

But the company's biggest earner is its communications division, which rang up $8 million in revenue in 1984 from sales of software and equipment linking computers around the world. The company made its first sale of a complete network to CNCP Telecommunications last August for $2.2 million.

CSO: 5520/24

JOINT PROJECTS IN INFORMATICS NEGOTIATED WITH PRC

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 13 Dec 84 p 31

[Text] Brasilia--China and Brazil are going to work together on four technology development projects in the area of informatics, in addition to a fifth project that is still dependent on the approval of the Chinese Government, pertaining to the production of a medium-sized computer. That was the result of the trip made to Beijing by Special Secretary for Informatics Colonel Edson Ditz. Ditz revealed that a Chinese mission will soon come to Brazil to conclude a contract with two Brazilian companies for the purchase of peripheral equipment for an unspecified amount but which he believed to be "considerable."" Ditz spent 1 week in Beijing and negotiated the five cooperation projects within the framework of the existing bilateral agreement with the Chinese Ministry of Electronic Industry. The first project approved was in the area of high-sensitivity integrated circuits (LSI and VLSI), involving conception, simulation, diffusion and tests. According to the colonel, the Chinese are far ahead of the Brazilians in the area of integrated circuits but the same cannot be said about the application of informatics and the hardware sector.

This complementation between the two countries was stressed by the secretary, in whose view Brazil and China have the advantage of having a strong domestic market and of being at a similar level of development, which will facilitate "a real transfer of technology."

Joint studies will also be conducted on data networks and process control in the electric, steel, petrochemical, textile and transportation areas.

The fourth project approved is aimed at conceiving equipment for the automated production of software. Even the developed countries are just starting projects of that nature. In Brazil the work is going to be carried out by the Informatics Technology Center which has already presented a study project estimated at $38 million (about 120 billion cruzeiros).

Another Chinese mission, this one of a commercial nature, will come to Brazil possibly in January to close deals in the area of peripherals. Ditz did not want to reveal the name of the two companies picked by the technical-scientific mission that visited Brazil last month but indicated that the volume of business should be large and may even extend to the installation of a Brazilian hardware factory in China.

8711
CSO: 5500/2025

BRIEFS

STATE TELEVISION DEPUTY DIRECTOR--Osvaldo Rivera Riffo, the director of DINACOS [National Social Communications Agency], has been appointed acting director of the state-owned television station. Rivera Riffo is replacing Colonel Huvo Morales. This information was released by acting Minister Secretary General of Government Colonel Carlos Krumm. [Summary] [Santiago Domestic Service in Spanish 2200 GMT 8 Jan 85 PY]

COMMUNICATIONS OFFICIAL--Lawyer Juan Jorge Lazo Rodriguez has voluntarily resigned as of 28 February from his post as deputy director of the National Social Communications Agency. For the time being, his post will be held by Claudio Prieto Noguera. [Summary] [Santiago Domestic Service in Spanish 1630 GMT 15 Jan 85 PY]

CSO: 5500/2032

FIRST REGIONAL TV CHANNEL ESTABLISHED IN ANTIOQUIA

Bogota EL ESPECTADOR in Spanish 22 Dec 84 p 13-A

[Text] Medellin, 21 December--Antioquians will begin enjoying 4 hours per day of audiovisual broadcasts within 6 months' time, when a company made official today between Inravision and Antioquia's departmental enterprises will have started transmitting on the first regional cultural television network to operate in the country.

The channel, to be known as CRCT, was created this afternoon, after high-ranking officials from the Ministry of Communications, EDA and the sectional government signed the contract whereby the National Institute and EDA founded a company which will take charge of the entity whereby the networks with reception in Antioquia are increased to four.

The minister of communications, Nohemi Sanin; the director of Inravision, Fernando Barrero; the manager of EDA, Ramiro Marquez Ramirez; and the governor of the department, Alverto Vasquez Restrepo, officially recorded the establishment of the company, for which the national government announced a contribution of 50 million pesos.

Historical Importance

At the opening of the ceremony, the minister said that the event constitutes an important part of the history of television in Colombia, and definitively opens the doors for the operation of departmental channels.

The official acknowledged: "Television has become centralized in Colombia. In principle, the channel will be preeminently cultural, and it will offer leeway for all cultural expressions. It will be a medium of regional expression."

She added that, at the outset, the network would operate without commercial backing, and it will obtain advertising only when its efficiency has been proven.

Key to Success

The minister stressed that the success of the first regional channel in Colombia would depend on those who are going to run it, the Antioquians.

She remarked that the recent reform made in that news medium would leave in the past television management by the government in office, as well as the "rewards based on influence" that bidding competitions have become.

The director of Inravision, Fernando Barrero, in turn, read the government regulations authorizing the establishment of regional channels in a company with departmental entities.

During the function, the officials also announced the establishment of the regional television monitoring commission, on which there will be participation by representatives from all sectors of the citizenry, as well as by representatives from the board of directors or council of the network, to be installed during January under the chairmanship of the minister of communications or his delegate, and with seats for the governor of Antioquia, the secretary of education, the manager of EDA, the rector of the University of Antioquia, a member of the supervisory committee and a news media expert from one of the sectional councils.

Based upon the plans, the channel will also make use of the microwave communications system operated by departmental enterprises in Antioquia, to cover and broadcast cultural events in the province of Antioquia.

In his remarks, Governor Alberto Vasquez Restrepo said: "With this channel, we are attempting to take to the entire department news, messages, recreation and culture of a native type; in other words, to allow Antioquia to show itself in all its fullness on the small screen to all Antioquians and, on certain occasions, to the national television audience."

2909
CSO: 5500/2029

CABLE TV SYSTEM PARAMETERS SET BY COMMUNICATIONS MINISTRY

Bogota EL ESPECTADOR in Spanish 22 Dec 84 p 13-A

[Excerpts] The cable television to be established in Colombia next year will revolutionize the communication and information systems in the country, and may include modern technologies such as videotext, teletext, data transmission, and even telebanking, telepurchasing, video-telephone and burglar, fire or flood alarms.

In the future, the new system will become part of what we in Colombia know as public services, in other words, water, telephone and electric light; but managed by private enterprise, preferably under state control.

Cable television consists of carrying the picture and sound signal by means of coaxial cable or fiber optical systems through the length and breadth of the city, in the open air or underground, in a manner similar to that of telephony or electricity.

Probing Cable

In order to begin the prefeasibility phase, the Ministry of Communications called a referendum which ended on 15 December to learn the opinions of all experts on the system and on communications as a whole, and to hear the pertinent suggestions.

Also scheduled was a series of illustrative lectures on the subject; and one of those with the largest audience was the one delivered by the manager of the Bogota Telephone Company, Carlos Eduardo Balen y Valenzuela, which was prepared on the basis of talks held with government officials and suppliers of equipment from countries such as Great Britain, France and Japan.

Balen said in his talk that the main goal that must be borne in mind when the policy on cable is set must unquestionably be quality in the service, and he explained that the new technology must not be directed solely and exclusively toward the entertainment and recreation of Colombians.

He noted that there must be "rather, a discussion of the cable system and not of cable television, because it would be unforgivable to undertake this

program considering only the possibility of unidirectional transmission of television pictures and sound."

Revolution in Habits

The system makes it possible to install burglar or fire alarms, or to establish electronic mail and teletext. Business activity can also reach households, because it is possible to perform office work at home, and carry out purchase and sale transactions involving such products as a food market, airline reservations and the purchase and sale of vehicles, as well as real estate operations.

Balen y Valenzuela noted that even banking transactions could be carried out, something which will unquestionably change people's habits and customs. He stressed that perhaps the most attractive by-product for Colombians is ease of education and long-distance entertainment, the present government's banner program.

He cautioned that special care must be taken to prevent the possible formation of monopolies, whether they be national or regional.

The official suggested that there should be a return video-channel with its corresponding sound channel, which could be used for this entire group of additional services.

Insofar as possible, it must be allowed to have the current television receivers used in the system.

The distribution systems have three types of configuration: as a tree or a branching; as a commutated star; or as a hybrid (a combination of the two). The most suitable is the second, but its technology has not been developed in its entirety. For the present, the hybrid system, which will facilitate the adaptation to future technologies, is advised.

General Parameters

Among the general parameters cited by the Ministry of Communications whereby cable television can be put in motion, there are the following:

The transmission of native or foreign commercial advertising will not be allowed.

The systems must have suitable protective devices against interference with other public services and effects of any kind damaging individuals or property must be avoided.

To meet the demand, there must be used in the systems to be constructed the technology which, meeting the service requirements, is in keeping with the municipal regulations regarding the use of conduits, public use zones, and cabling with pole lines, with the necessary authorization and receipt for taxes procured by the respective public enterprises.

The state will receive an economic compensation from those utilizing the service, which will be set on a percentage basis, in accordance with the rates that are charged to the subscribers.

There will have to be compliance with the treaties existing on the national or international levels in the area of royalties for copyrights.

2909
CSO: 5500/2029

ARABSAT TO BE LAUNCHED IN 1985

INA Report on Satellites

JN232036 Baghdad INA in Arabic 1052 GMT 23 Dec 84

[Text] Baghdad, 23 Dec (INA) — The first Arab satellite will be launched into space at the end of February next year. This was announced to INA here today by the director of the General Establishment for Postal, Telegraph, and Telephone Services, who is Iraq's representative to the board of directors of the Arab Corporation for Space Communications.

He said that the Arab satellite Arabsat has recently been transported to a launching base in Guyana, South America, to be launched into space by the European rocket *Ariane*. He added that the first Arab satellite has been designed to accomodate 8,000 telephone channels, some television channels, and a special channel designed to transmit educational and instructional programs to the Arab countries whose coverage area is estimated at 14 million square kilometers.

He pointed out that another Arab satellite will be launched at the end of August next year by the U.S. space shuttle *Challenger* after the first Arab satellite stabilizes in its fixed orbit over the equator.

Regarding the Arab network for space communications, he said that this network consists of two satellites in two fixed orbits revolving around the globe on the equator and a third reserve satellite that will be ready on earth along with two stations to remotely control the Arab satellites: one in the Dirab area near Riyadh in Saudi Arabia and another in Tunisia.

He said that once the Arab network for space communciations is completed, it will ensure several services such as telephone contacts; cable and other wireless communication — regional, local, and collective television distribution; electronic postal services; relay of conferences; reception of television transmission in remote areas; air flight reservations; printing newspapers simultaneously in various parts of the Arab world; and other civilian purposes.

He pointed out that Iraq has begun to prepare for the construction of a satellite station to work with Arabsat, asserting that Iraq has played a prominent role in setting up this project and directly preparing a specialized cadre to work at the satellite remote control station in Riyadh. He added that the other Arab countries are currently building stations for satellite communications. These stations are expected to be completed by the end of next year so that the Arab space communications network will be ready for operation.

First Arab Satellite

GF061114 Manama WAKH in Arabic 0845 GMT 6 Jan 85

[Text] Abu Dhabi, 6 Jan (WAKH) — The first Arab telecommunications satellite, Arabsat, will be launched from the space center launching site in Kourou, French Guiana, in Central America, on 8 February.

An official of the UAE Ministry of Communications has said that 22 Arab states will benefit from the 1,195-kg satellite. In addition, there are 50 tons of equipment for ground control and for launching, and services such as 8,000 simultaneous telephone lines, 7 television programs, and a collective television channel, he noted.

Arabsat was established in Riyadh under the auspices of the Arab League, all of whose member states are participating in Arabsat. Arabsat is the first satellite of its type to be launched by France and the EEC.

CSO: 4500/4504

FRENCH SATELLITE TO BE USED FOR URBAN PLANNING

New Delhi PATRIOT in English 1 Dec 84 p 8

[Text] India is to utilise Spot, the French remote sensing satellite, from next year for facilitating its urban planning programme, reports PTI.

About Rs 1.5 crore have been earmarked for setting up ground installations to receive photos sent by the Spot (Satellite Probatoire D'Observation De La Tere), according to Prof B L Deekshatulu, Director of the National Remote Sensing Agency (NRSA), Hyderabad.

Since 1977, the NRSA is receiving pictures from Landsat, the US satellite. The cost of a Spot photo covering a 60 sq km region will be Rs 10,000 with either a resolution of 20 metres in colour or 10 m in black-and-white, according to present estimates.

The decision arises from contacts established in 1981, which were followed up last February during the Indo-French talks on space cooperation between the French space agency "Centre National D'Etudes Spatiales" (CNES) and the Indian Space Research Organisation (ISRO).

The Spot, which will compete with, if not replace the Landsat series satellite, is scheduled to be launched by the Ariane rocket launcher next month or early 1985.

Being constructed by CNES, the Spot will be placed in an orbit 832 kg. With a ground resolution of 10 metres, compared to 100 metres for Landsat, Spot can observe a ground swath of 117 km width under peak viewing. But, if required, it can observe any region of particular interest within 1,000 km radius.

The satellite can study soil use, environmental changes, evaluate natural resources, and also help in establishing new maps.

The satellite will provide valuable information to geologists engaged in mine detection, help in searching marine resources, and can be used to determine crop progress for predicting harvests. It can also be an effective tool in detecting pollution zones on earth.

The mission control centre of the CNES at Toulouse will prepare observation programmes sent daily to the on board computer. A reception station is under construction at Aussaguel-Issus in the Toulouse region. With two antennae—one for the launching and parking of the satellite, the other for reception.

According to CNES, the total cost of the Spot is expected to be Rs 320 crore.

CSO: 5550/0025

INDIGENOUS SATELLITE LAUNCH VEHICLE BY 1990

New Delhi PATRIOT in English 2 Dec 84 p 8

[Text] India will use the indigenous polar satellite launch vehicle to orbit Indian Remote Sensing (IRS) satellites in 1989-90, UNI quotes Dr U R Rao, director, Indian Space Research Organisation (ISRO).

Work on the ambitious programme to build indigenously designed and fabricated IRS satellites and the polar satellite launch vehicles to lift satellites weighing up to 1,000 kg was already under way, Dr Rao said on Saturday, delivering the Nilakantan memorial lecture at the annual general meeting of Aeronautical Society of India in the Capital.

"India has no ambition to use space technology for placing a man on the moon, he said quoting Dr Vikram Sarabhai, founder father of space research in the country.

Dr Rao said the emphasis of the Indian space programme had been, from its inception, on developing indigenous capability and using it for the development of the nation.

He said the integrated space programme of the ISRO concentrated its efforts in developing space applications so that the benefits of this technology could flow to the mainstream of the nation.

Dr Rao said, "Now the country has moved from experimental era to operational era, and Insat system, a joint venture of the various departments like All India Raido and Doordarshan, represents a most cost effective enhancement of national telecommunication, meteorological and mass communication capabilities.

The Government had formulated a long-term Insat space segment replenishment strategy aimed at indigehous design and fabrication of a future Insat space craft after Insat-IC, Dr Rao said.

He said Insat-II satellite required for replacement of Insat-IB in late 1990 or early 1991 were to be preceded by Insant-II test satellites. The first Insat-II test (Proto-Insat) satellite was expected to be launched in 1988.

Referring to indigenous satellite launcher, Dr Rao said further enhancement of launch capability was required for launching geostationary communication satellites of Insat-II class weighing 2,000 kg.

The modular design of PSLV permits such an enhanced capability by changing the last stage into a cryogenic stage, Dr Rao added.

CSO: 5550/0024

TELEVISION, RADIO TRANSMITTERS INAUGURATED IN ZAHEDAN

Tehran KEYHAN in Persian 24 Dec 84 p 2

[Text] Zahedan, KEYHAN reporter. Mohammad Hashemi, the general manager of the Voice and Vision of the Islamic Republic of Iran, arrived in Zahedan to inaugurate the Martyr Mofatteh 100-watt radio transmitter of Zahedan and the second network of the Vision of the Islam Republic in Zahedan.

The general manager of the Voice and Vision first participated in the three-day seminar of the managers of the foreign service units of the Voice and Vision throughout the country, which had begun two days earlier. In this seminar, after the recitation of verses from the Koran, brother Qasemzadeh, the head of the foreign language unit of the organization, presented a summary report on the seminar.

Then brother Hashemi said: We must try to awaken the oppressed Muslims of the world with the simple language of the people and unite them against heathenism.

Then the general manager of the Voice and Vision of the Islamic Republic of Iran participated in the inauguration ceremonies of the Martyr Moffatteh 100-watt radio transmitter of Zahedan. In these ceremonies, in which Hojjat ol-Eslam Seyyed Mehdi 'Ebadi, the representative of the imam and Friday imam of Zahedan; a group of Shi'ite and Sunnite clerics; Engineer Jahanbakhsh, deputy general for development; brother Esfahani, the executive deputy general; the commanders of the military and law enforcement agencies; and the officials of the offices and revolutionary organizations and institutions in the Province of Sistan and Baluchestan participated, first the above-mentioned transmitter was inaugurated by brother Mohammad Hashemi, the general manager of the Voice and Vision of the Islamic Republic of Iran. Then verses of the Koran and later the anthem of the Islamic Republic of Iran were broadcast directly from the transmitter.

Then brother Hashemi said: The transmitter being inaugurated today was installed and put into operation with the efforts of the hardworking brothers of the technical division of the Voice and Vision of the Islamic Republic of Iran in Tehran and the Province of Sistan and Baluchestan, which can increase the transmission power of the Voice of the Islamic Republic in this area.

He added: This province, which was called a deprived area, is no longer deprived of the use of these resources, but it is one of the most important provinces.

Then, Hojjat ol-Eslam 'Ebadi, the representative of the imam and Friday imam of Zahedan, welcomed the participants in the ceremonies, particularly brother Hashemi, and praised the efforts of the experts and employees of the Voice and Vision of the Islamic Republic, who installed and put into operation this transmitter.

These ceremonies concluded with prayers for the health of the great leader of the revolution and the victory of the Islamic combatants.

It should be pointed out that of this 100-kilowatt transmitter, 50 kilowatts are being used at the present time and 50 kilowatts are being used as a backup.

Brother Mohammad Hashemi-Rafsanjani also participated in ceremonies held to inaugurate the second network of the Vision of the Islamic Republic in Zahedan.

The general manager of the Voice and Vision of the Islamic Republic of Iran praised and thanked the communications company which cooperated in this important task.

10,000
CSO: 5500/4713

BRIEFS

NEW TELEPHONE LINES--Shahr-e Kord, KEYHAN reporter. Dr Kalantari, the deputy general manager of the Iranian communications company, traveled to Shahr-e Kord to participate in the regional Seminar of the general office of communication channels. In the cities with no long-distance telephones, automatic identification equipment for customers will be installed and, ultimately, with the installation and operation of this equipment, all cities with no long-distance telephones will be connected to the international telephone network. He pointed out: Also, on the basis of programs underway, every year, 100,000 new telephone lines will be put into operation for various cities. According to the timetable, every year, 400 villages will be provided with communication resources. In conclusion, he said: The reconstruction project for the communications networks of the war-stricken regions continues to make significant progress, and the communications affairs of all of these areas are expected to be reconstructed at most by the end of March 1985, when the Borujen automatic telephone center will be put into operation. The developmental project for the telephone lines of Shahr-e Kord, 5,000-7,000 units, is also underway, and by next year, with the installation and operation of the equipment for this project, gradually, 2,000 new telephones will be made available to the citizens of Shahr-e Kord. [Text] [Tehran KEYHAN in Persian 20 Dec 84 p 2] 10,000

CSO: 5500/4713

BRIEFS

MICROWAVE PROJECT IMPLEMENTED--Baghdad, 22 Dec (INA)--The Iraqi Ministry of Transport and Communications has implemented the Baghdad-Amman microwave project. In a statement to INA, 'Abd al-Jabbar 'Abd al-Rahim, minister of transport and communications, said that the project has recently begun experimental operation. Actual operation will begin on 8 February 1985. He explained that the first stage will provide 120 channels for telephone and telex services and will allow the exchange of television programs between the two countries. The second stage will increase the channels to 960 by including channels for communication between Iraq and Jordan on the one hand and between Iraq and the rest of the Arab countries on the other. [Excerpt] [Baghdad INA in Arabic 1335 GMT 22 Dec 84 JN]

CSO: 4500/4504

BRIEFS

VOA TRANSMITTERS IN ISRAEL--Tripoli 4 January--Tel Aviv has given the United States the right to set up transmitters of the Voice of America radio station in Israel, the Libyan News Agency JANA reports, quoting political quarters in Ankara. The agency stressed that the United States approached Turkey, Spain, and Greece with similar requests. However, they refused to let the subversive radio station into their territory. Only the government of Israel, Washington's "strategic ally" has granted permission. [Text] [Moscow TASS in English 1459 GMT 4 Jan 85 LD]

CSO: 5500/1014

BRIEFS

ISLAMIC TELEVISION IN TRIPOLI--Beirut, 6 Jan (MENA)--The Islamic Unification Movement in Tripoli in northern Lebanon has begun to operate a private television station for the city of Tripoli and its suburbs. This is the first private television station in Tripoli, begun in an effort to expand the audio-visual information campaign pursued in the city and which publishes a weekly newspaper. The movement's television programming transmitted from the port of Tripoli, is limited to religious talks, songs, guidance, and commentaries, and to video excerpts of speeches and statements made by Islamic leaders on various occasions. The Unification Movement's television station is the third private television station in northern Lebanon. The other two are the television and radio station in Ihdin operated by former President Sulayman Franjiyah, and Lebanon Television in the north, which is operated by the Syrian Social Nationalist Party from Fi', in al-Kurah. [Text] [Cairo MENA in Arabic 1700 GMT 6 Jan 85]

ASSYRIAN RADIO STATION INAUGURATED--On the occasion of the opening of the Assyrian Voice of Happiness [Idha'at sawt al-Farah] and after a 2-month experimental transmission, the radio's management held a cocktail reception attended by Assyrian personalities on the political, religious, and civilian levels. The radio, which is transmitting on a wavelength of 96.8 stereo FM, will be devoted to cultural and educational affairs. [Text] [Beirut AL-NAHAR in Arabic 5 Jan 85 p 4]

CSO: 4500/4504

SPACE RESEARCH, DEVELOPMENT PROGRAM APPROVED

GF300750 Karachi DAWN in English 28 Dec 84 pp 1, 2

[Text] Karachi, Dec 27: A four-point long-term programme for the development of space science and technology — which includes the launching of Pakistani communications satellite — was approved, in principle, by the Space Research Council (SRC), at a three-hour meeting chaired by President Gen Mohammad Ziaul Haq on Thursday.

It was officially stated after the meeting that the SRC had been informed by Mr Salim Mehmud, chairman of the Pakistan Space and Upper Atmosphere Research Commission (SUPARCO), that a detailed feasibility study on the communications satellite had already been prepared and was at present being examined by experts.

Mr Mehmud briefed the SRC about the salient features of the feasibility study.

The SRC directed SUPARCO to place the findings of the communications satellite feasibility study, together with the experts' report, before the Federal Cabinet for a final decision on this matter.

The SUPARCO chairman later told newsmen that the feasibility study was being scrutinised by "experts from the relevant departments", and their report would be placed before the Federal Cabinet in about two months.

The SRC, which met here for the first time on Thursday, is the nation's top policy-making body on space science and technology, and the president is its chairman.

The meeting of the SRC was attended, among others, (besides the president and SUPARCO chairman) by Federal Finance Minister Ghulam Ishaq Khan, Federal Communications Minister, Mohyuddin Baluch, Federal Planning and Development Minister Mahbubul Haq, presidential adviser for science and technology, Dr M.A. Kazi and Cabinet secretary Zahoor Azar.

The meeting reviewed the progress made by SUPARCO during the past four years (following a reorganization under a presidential ordinance issued in 1981 which upgraded it from a committee into a full-fledged autonomous commission).

The main agenda item related to the long-term space science and technology development programme, which has been formulated by SUPARCO.

This programme essentially comprises the following four components:

Establishment of satellite ground receiving stations capable of transmitting to and receiving signals from overhead satellites, including meteorological, and earth resources data and pictures, communications signals, scientific information, etc.

Setting up satellite-cum-rocket tracking stations, equipped with computerised radar and optical devices, including laserranging;

Launching of Pakistan's national communications (voice and TV) satellites in geo-synchronous orbit (i.e. one main satellite and a sister back-up machine, in stationary orbit over the earth's equator, thereby providing constant 24-hour coverage to Pakistan; and

Development of the capability to assembly, fabricate and launch light-weight satellites (250-350 kilograms) for natural resource surveys and communication purposes in near-earth orbits.

Approving this four-point programme, in principle, the SRC directed SUPARCO to continue with the implementation of projects under its overall objectives.

The SRC felt that the above programme was aimed at developing a strong base for space science and technology in Pakistan over the next 10 years, and this will contribute towards the socio-economic uplift of sciety as a whole.

Each component of the programme will lead to a distinct capability in the field of space research.

Mr Azar briefed the SRC on the progress made by SUPARCO in its reorganizational work.

Mr Mehmud made a presentation on the scientific and technological search programme, and briefed the meeting on the

present status of the domestic communication satellite project (PAKSAT), the under construction ground receiving station at Islamabad (capable of receiving pictures direct from the US (LANDSAT series of satellites and the about-to-be-launched French 'Spot' satellite), and such ancillary subjects as cooperation between SUPARCO and other international agencies.

An agreement has already been signed with the US National Oceanic and Atmospheric Administration for the receipt of "LANDSAT" pictures at Islamabad, and talks are under way with France on a similar arrangement.

The three-hour meeting took place at SUPARCO's Space and Atmospheric Research Centre (SPARCENT), near the Karachi University campus.

Later, President Zia and the other SRC members were escorted to an exhibition hall, where they saw a number of instrument fabricated wholly or partially and the SUPARCO instrumentation laboratories and at SPARCENT, as well as charts and satellite pictures.

Later, addressing SUPARCO scientists and staff at the SPARCENT auditorium, President Zia said SUPARCO was an organisation which held "great significance" for a developing country like Pakistan.

While financial constraints were a challenge to the Pakistan space research programme, he expressed confidence that SUPARCO scientists and technicians had the ability to overcome this handicap.

He observed that though the Pakistani space research and exploration programme had lagged behind due to neglect of previous governments, his administration was determined to give SUPARCO all possible backing and encouragement so as to make up for lost time.

In his nearly 10-minute speech, the president called for the establishment within five years of a SUPARCO-run training institute (similar to PINSTECH) [Pakistan Institute of Technology], where young Pakistan scientists would receive grounding in space research.

He also said SUPARCO had a great potenial for future development.

Later, in his comments in the visitors' book, he said: "We have high hopes in this organisation", and added that under the able and dedicated leadership of its chairman, SUPARCO would fulfil these hopes.

CSO: 5500/4712

PANA COMMITTEE EXAMINES AGENCY FINANCES

AB141400 Dakar PANA in English 1147 GMT 14 Jan 85

[Text] Dakar, 14 Jan (PANA)--The Finance Committee of the PAN AFRICAN NEWS AGENCY (PANA) began a 5-day session at the agency's headquarters in Dakar (Senegal) Monday.

High on the 10-point agenda of the Finance Committee's fifth ordinary session are the auditor's report for the financial year ended 31 December 1983 and the financial report of the director general of PANA. The committee will also examine a number of studies submitted to it by PANA Secretariat. These include the scale of assessment of contributions of member states, a preliminary draft programme of action and budget for the 1986-1987 biennium and a draft manual on accounts and accounting procedures. Other items to be examined by the committee are contribution arrears of member states and amendments to the financial regulations on the light of developments of the agency.

In a short statement to the committee, the director general of PANA, Mr Cheick Ousmane Diallo, disclosed that the agency's total income for the 1983 financial year amounted to $1,530,708 from a budget of $3,327,817 against $449,897.30 in 1982 from a budget of $2,958,165, representing an increase of 2.4 percent compared to 1982 figures.

The main source of income, according to the director general, are contributions from member states (PANA's normal source of income), amounting to $1,417,763.52 and representing 93 percent of total revenue. To this are added funds from other sources namely UNESCO ($92,135.00) and bank interests ($20,810.33), representing respectively 6 percent and 1 percent of total income.

This positive development, Mr Diallo pointed out, is evidence of the efforts exerted by member states and the agency towards recovering contributions in accordance with the resolutions of the Finance Committee.

The PANA director general indicated however that despite this positive result, the rate of recovery of contributions had been very low--43 percent--against an approved budget of $3,327,817. This figure shows that in 1983 the agency operated with less than half of the approved budget, he said.

Mr Diallo attributed this to the difficult economic situation facing member states in particular and Africa in general. He said that in spite of an estimated 0.20 percent increase in economic growth rate and 2.3 percent in gross domestic product (figure applicable to only non oil-producing African countries), this increase is lower than Africa's population growth rate a [words indistinct] meagre for reversing the downward trend of its per capita income.

Besides, the situation is aggravated by poor climatic conditions and the slow rate of world economic recovery, the director general said, pointing out that despite this turn of events member states "have honoured and continue to honour their obligations towards the PAN AFRICAN NEWS AGENCY."

On the agency's expenditure and obligations during the period under review, he said these amounted to $997,257.58 from a total income of $1,530,708.8, leaving a "positive balance" of $533,451 compared to the 1982 financial year for which expenditure and obligations amounted to $638,125.81 against a meagre income of $(?449,897.30). "This means that during the 1983 financial year we managed to reduce our rate of expenditure from 1.41 percent in 1982 to 0.65 percent in 1983," he said, adding that the reduction of expenditure to more than half "is evidence of the very strict measures always adopted in the management of the agency's funds."

Referring to the preliminary guidelines prepared on the draft programme of action and budget for the 1986-1987 biennium, the director general said that this was based on an (?in-depth) evaluation of previous financial years and is expected to "allow us from the 1986 financial year to narrow the discrepancies that have hitherto existed between the approved budget and the effective budget (realizations)."

On the draft "PANA manual on accounts and accounting procedures," he said this document is conceived as a "management guide" aimed at redressing imperfections in accountancy and coding of expenditure. "We hope that this document will be enriched by your suggestions and submitted to the 1985 ordinary session of the inter-governmental council," he urged members of the committee.

Finally, Mr Diallo pointed to the study conducted on the scale of assessment of contributions of member states as an approach to tackling the problem of "assessed contributions which is so complex that it requires further thinking."

The Finance Committee which is made up of Algeria, Cameroon, Ghana, Mozambique, Senegal as well as the OAU, is expected to draft a number of resolutions and recommendations for submission to this year's inter-governmental council session.

CSO: 5500/65

PANA COMMITTEE NOTES 'SERIOUS' FINANCIAL PROBLEMS

AB200920 Dakar PANA in English 1355 GMT 19 Jan 85

[Text] Dakar, 19 Jan (PANA) — The fifth session of the PANA Finance Committee, opened Monday in Dakar, ended yesterday "expressing satisfaction at the good management of the accounts of the agency".

A report adopted by the committee stressed "the strict measures adopted by the Secretariat with regard to the utilization of funds placed at the disposal of PANA". The committee welcomed the director general's intention to "present for the next financial year (1986-1987) a budget whose total expenditure will be the same as that of the present financial year (1984-1985)."

This wish expressed by the director general, according to the committee, will enable the agency to find a solution to the problem of inflation that has "reduced the purchasing power of resources expected" by PANA which at the same time is expected to develop its services and increase its productions.

The committee however noted that despite the good management of resources, the agency is facing serious problems due to "the slow rate of contributions from some member states". While lauding the efforts exerted by President Abdou Diouf of Senegal towards speeding up the payment of contributions by member states to the agency, the committee drew the attention of members to the persistent discrepancy existing between "PANA's actual income and income budgeted".

This "financial gap", the committee pointed out, poses many problems, the most serious being "the near inability to recruit on a permanent basis the personnel required for the proper running of the agency for the fear of not being able to ensure payment of their salaries and indemnities".

Contributions from member states constitute 93 percent of the agency's budget which amounts to 3,327,817 dollars for the current financial year. So far, only 1,530,708.8 dollars were received. The committee also recommended that the director general "revise the PANA staff rules and regulations in line with the policy of austerity imposed by the need to make maximum use of scarge resources".

It therefore called on the director general to prepare for submission to the inter-governmental council a number of documents including a draft staff regulations, salary scales, recruitment and payment policy involving payment of indemnities and a manpower management policy.

The committee, whose mandate ends shortly, is made up of: Algerian, Cameroon, Ghana, Mozambique, Senegal, and representative of the OAU.

CSO: 5500/69

NEWS LINKS IMPROVED

Nairobi THE KENYA TIMES in English 2 Jan 85 p 3

[Text]

PLANS to link all district information offices in the country with telex facilities to KNA headquarters in Nairobi are underway for a faster relay of news from the districts.

And the Kenya Posts and Telecommunications is installing a second line to link KNA and the Voice of Kenya to improve the receiving of news from KNA.

This was said yesterday by an Assistant Director in the Department of Information, Mr. James Mangoka, during an end-of-year party for the department's staff; held at the headquarters in Nairobi.

Mr. Mangoka said that whereas the Voice of Kenya had improved direct international news receiving on VoK television by sate lite, KNA was insisting on enhancing the quality and speed of news supplied to the newsroom.

To ascertain this, Mr. Mangoka, said the department's general staff was required to put in positive efforts.

Noting that the Kenya News Agency was striving to develop news transmission in Africa, the assistant director revealed that KNA participated fully in the functions of the Pan-African News Agency (PANA) and that Kenya was the highest contributor to Pana's budget.

On staff training, Mr. Mangoka said that the department had formed a training committee to look into matters relating to staff training with a view to training more staff for improved efficiency as well as individual advancement in the various professional cadres. — *KNA*

CSO: 5500/68

BRIEFS

GABON JOINS INMARSAT--London, 16 Jan (AFP)--The oil-rich West African state of Gabon has become the 42d member of Inmarsat, the international organization for maritime communications by satellite, it was announced here today. The organization runs a network of communications satellites covering the world's three main oceans and aimed at facilitating communications with ships and oil-drilling platforms. Gabon, which will be represented within the organization by the Gabonese International Telecommunications (TIG) Company, is the fifth African country to join Inmarsat. The others are Algeria, Egypt, Liberia and Tunisia. [Text] [Paris AFP in English 1311 GMT 16 Jan 85]

CSO: 5500/66

BRIEFS

TELECOMMUNICATIONS HEADQUARTERS--Banjul, 10 Jan (GINS/PANA)--The foundation stone of 53.5 million dalasis Gambia telecommunication headquarters was laid today by President Sir Dawda Jawara. Sir Dawda said no country could do without a modern telecommunication systems. "Any country that neglects it does so at its peril", he said. The president said it is an important component in the development of a nation. The telecommunication system to be installed has been described as one of the most modern and sophisticated systems in our sub-region. The equipment would consist of a digital and local dialing system and an automatic exchange. The project is being funded by Caisse Centrale de L'economique of France. [Text] [Dakar PANA in English 1730 GMT 10 Jan 85 AB]

CSO: 5500/64

EKSTEEN NOTES SABC TO RATIONALIZE RADIO SERVICES

MB161410 Johannesburg Domestic Service in English 1115 GMT 16 Jan 85

[Text] The South African Broadcasting Corporation [SABC] has announced that it is to rationalize its radio services. From 1 July, Springbok Radio will close down at 1830 in the evening and three new regional services will be introduced. The new regional services will be known as Radio Jacaranda in Pretoria, Radio Orange in Bloemfontein, and Radio Algoa in Port Elizabeth.

The director general of the SABC, Mr Riaan Eksteen, who disclosed details of the rationalization in an address to the Constantia Club in Pretoria, said that after 1830 in the evenings, Springbok Radio transmitters would carry programs of either Radio 5 or the regional services. He said that the early closing of Springbok Radio would mean the discontinuation of some programs. Mr Eksteen said that the broadcasting schedule was being rearranged, but that no further changes would be made to the Springbok Radio format. He said the daytime listenership figures were very satisfactory. The new arrangement would be retained for as long as it proved financially viable.

Referring to the regional services, Mr Eksteen said that from 1 July, Radio Highveld and Radio Good Hope would be split into separate community stations for local broadcasts from 1830 to midnight, from Johannesburg, Pretoria, and Bloemfontein in the case of Radio Highveld, and from Cape Town and Port Elizabeth in the case of Radio Good Hope. He said that Radio Port Natal would not be affected by the rationalization.

This move will be the forerunner to the creation of three new autonomous regional radio services on 1 January next year. They will be Radio Jacaranda, broadcasting from Pretoria, Radio Orange from Bloemfontein, and Radio Algoa from Port Elizabeth. The introduction of the new services is the result of a rationalization investigation made by the SABC in the second half of last year. Mr Eksteen said it was not a foregone conclusion that these radio services would hit the advertising revenue of local newspapers and publications. He said it was more likely that the stimulation of growth and activity would push up the earning capacity of both newspapers and the radio.

Mr Eksteen emphasized that the SABC was giving priority to the rationalization of all radio and television services. He said that decisions about such rationalization, and concerning other aspects of the activities of the corporation would be announced in due course.

He said that in the rationalization process, attention would be paid to the role that the SABC played in South African society, to its resources and financial position, the variety of demands made on it, and ways of increasing productivity. Mr Eksteen pointed out that, internally, the SABC operated 18 radio services a day. These 18 services reached almost 12 million people a day.

CSO: 5500/65

DECISION ON NORDSAT HANDED TO NORDIC COUNCIL

Helsinki HELSINGIN SANOMAT in Finnish 15 Dec 84 p 13

[Text] The latest effort to realize in a reduced format the Nordic countries' television satellite project, Nordsat, which has been under study for a good ten years, is proceeding at a snail's pace. Contrary to intentions a decision may not be reached even at the next joint session of the Nordic Council (PN) in March.

Nordsat was under discussion in Reykjavik on Thursday at the meetings of both the Nordic collaboration ministers and the presiding officers of the PN. The urgency of finding a solution was stressed, but according to STT [Finnish News Agency] further development of television collaboration faced many obstacles.

All indications are that the official task force which is laying the groundwork for the satellite project and the PN cultural committee will not get their proposals shaped up in time for the next Council meeting. Denmark had already withdrawn from the project earlier and even the others remaining on board do not appear to be quite ready to make the necessary decisions.

Finland has proposed that, in exploiting the service of the satellite to be launched, one channel be assigned to Finland, one to Sweden, and one to Iceland and Norway jointly. Denmark has chosen not to participate at all in the project at this time.

Alternative to Proposed Channel

Sweden proposed at the recent meeting of the Nordic cultural ministers in Oslo that a single common channel be provided in lieu of the above arrangement. The idea behind this being that in this way we would get a program that is on a par with what other satellites that are already in operation and those which are rapidly increasing in number have to offer.

The Finnish collaboration minister, Minister of Culture Gustav Bjorkstrand [Swedish People's Party] mentioned on Thursday in Reykjavik that Finland is prepared to weigh the Swedish proposal. Norway on the other hand is assuming a somewhat sceptical attitude. Bjorkstrand also pointed out that Finland wants to continue to study some economic reports pertaining to the satellite project, the results of which have not yet been reliable.

Bjorkstrand believes that during the next phase the Nordic public broadcasting companies will try to find solutions to both programming and economic policy problems. He does not believe either that any decisions will yet be made at the next session of the Nordic Council. At most the Council can express its desire for a speedy settlement of the matter.

Kiuru Wants to Postpone Decision

On Friday Bjorkstrand explained the situation to the government communications policy committee, which then requested further details. STT reports that this sort of request was expressed particularly distinctly by the presiding officers at the Reykjavik meeting. Among other things, the Finnish representative Elsi Hetemaki-Olander (Conservative) emphasized that for cultural collaboration the joint Nordic television satellite is a very important component, which soon should be put into practical operation.

At the Friday meeting of the advisory board of the public broadcasting company general manager Sakari Kiuru also tackled the Nordsat situation stating that the most basic questions are still waiting to be solved. According to Kiuru what is needed now is the initiative of the public broadcasting companies themselves.

Kiuru outlined a radical solution. First, the whole old alternative model of Nordsat must be abandoned and the ultimate position on Nordsat be delayed for a few years. "The technical details could then be more definite and less expensive than at present, the programming could be satisfactorily designed by joint effort, legal questions solved and means of financing found."

Kiuru considered it essential that the Nordic countries prepare themselves to offer their own fully competitive alternative, keeping in mind the communications situation of the 1990's, otherwise we are indeed at the mercies of the program offerings of the international giant corporations and perhaps of the poor domestic fare and poor cable television statute.

9655
CSO: 5500/2547

HELSINKI SUBURB GETS COUNTRY'S LARGEST AUTOMATED PHONE EXCHANGE

Helsinki HELSINGIN SANOMAT in Finnish 15 Dec 84 p 15

[Article: "Digital Technique Came to Toolo Telephone Exchange: First Automated Exchange to Become Finland's Largest Computerized Exchange"]

[Excerpt] The first automated telephone exchange of Finland and the Nordic countries, the 62-year-old Toolo exchange will become Helsinki's, and Finland's, largest digital exchange. The official inaugural call was made on Friday, but the Helsinki Telephone Association [HPY] made a false start more than a week earlier by connecting the first thousand numbers to the digital mode.

In the course of the year about 18,000 Toolo telephones will be phased into the new exchange. The digital exchange assures to the ordinary user, above all, better audibility, and also the possibility of utilizing so-called accessory functions.

These are for example, instant selection, "hot line", preset transmission and a three-way conference.

Instant selection means that a number used often can be programmed merely by tapping a key, "hot line" or lightning-flash line that upon lifting the receiver the caller has five seconds to dial a number, if this is not done, the call is connected automatically to a previously programmed number.

This kind of programming is made possible by computer control linked to the digital technique.

Through present transfer calls coming to the home phone can be transferred to come directly even to the place where one is visiting. The telephone also provides a reminder to cancel the present transfer.

Charges Can Now Be Specified

The new technology makes it possible to separate the charges for local and distance calls on the telephone bill. Telephone subscribers of the new Toolo exchange will receive the modernized, detailed phone bills for the first time in March 1985.

Telephone numbers beginning with 49- and 44- will be linked to the Toolo digital exchange. The first thousand 491- phone numbers are connected already and will be followed by the 492- numbers in the first half of January and the 493-'s by the end of the month.

Subsequent groups of a thousand of 49- numbers will be linked at three-week intervals, and after that the 44- numbers will be changed to the digital system.

The Toolo exchange, which cost about 15 million marks, is of Siemens Oy manufacture. The same company also built the present Toolo exchange which in its day was the first automated exchange in the entire Nordic country region.

HPY promises that about 70 new digital exchanges will be completed within five years. The plan is to procure one half of these from Siemens and the rest from the domestic manufacturer Telenokia [Nokia Telecommunications].

The new centers are used for two purposes, the old centers that are based on the technology of the 1920s are being remodeled, and the telephone network is being expanded with new centers.

Several new exchanges, particularly in North Espoo and Kirkkonummi, figure prominently in the near-future program of phone computerization, but the Helsinki central exchange also will get the digital technique.

1986 will see the Kamppi, Helsinki central city and Sornainen, telephone exchanges, among others, digitalized to some extent, along with the Toolo exchange.

The Lassila, Suutarila, Tikkurila, Kerava and Olari exchanges also will acquire the digital capability during 1986. The HPY designations of exchange zones do not pay heed to the customary boundaries of city sections, and so, for example, Haukilahti, Westend and Niittykumpu belong to the Olari exchange. Olari itself, however, is not attached to it.

The digital technology also makes a more efficient data transfer on the telephone network possible. The so-called universal network is gradually coming into being by means of the new exchange technology whereby voice transmission and other information transfer services are combined.

An essential component of the new exchange technology is the push button telephone, the purchase of which, however, is not obligatory if one does not want the telephone capability for the extra functions.

The cost of the push button telephone remains, for the present, higher than the dial telephone, states the HPY managing director, Councellor of Mining Martti Harva. The reason for this is that the push button telephone costs the telephone association itself more than the ordinary one. In the course of time the price difference will likely level out, he promises.

9655
CSO: 5500/2547

BRIEFS

DATA TRANSFER NETWORK EXPANDING--YDV [General Data Transfer Network] has over 2,000 subscribers. A Postal and Telegraph Service spokesman stated that each year hundreds of new subscribers join this network which was set up to serve the data transfer needs of enterprises. The installation offers services to businesses through a general data transfer network in cooperation with private telephone systems. The net has been in operation since 1981. [Text] [Helsinki HELSINGIN SANOMAT in Finnish Finland 14 Nov 84 p 8] 9655

CSO: 5500/2547

TELECOM-1 OFFERS 5 INTEGRATED DIGITAL SERVICES

Paris INTER ELECTRONIQUE in French 15 Oct 84 p 9

[Article by J.-P. Jolivet]

[Text] While the news headlines have been highlighting the successful launching of the Telecom-1 satellite, its satisfactory operation in orbit has now made it possible for the DGT [General Directorate for Telecommunications] to announce the opening of the first commercial services of the ISDN [Integrated Service Digital Network]. Between now and the end of 1985, five services will be fully operational: Transfix, Transcom, Trandyn, the extending of teleconferencing to videoconferencing, and videocommunications--a range of services that, in the DGT's view, not only responds to the growing needs of business communications, but also maintains French positions in the international telecommunications market, where, over the next several years, the challenge must be met with respect to digital networks and their associated equipment.

The earlier-than-planned opening of the first French ISDN services--during the latest SICOB [Exposition of Office and Business Supply Industries and Office Organization]--was actually a counterfire to the various initiatives of the foreign competition, aimed at the export markets. For since the Geneva Telecom 83 Exposition (a year ago), British Telecom, the German firms Siemens and SEL [Standard Electrik Lorenz] (an ITT subsidiary), Bell Telephone Manufacturing (Belgian subsidiary of ITT), and Ericsson have announced the development of ISDN's (see INTER ELECTRONIQUE No. 380), despite sparsely **digitized networks.**

From a domestic standpoint, the opening of the ISDN facilitates the meeting of new needs stemming from the development of data processing and office automation, and will at the same time--it is hoped by the DGT--provide the nascent business communications market and the sector's French industrialists with an added element of thrust. The evolution of communications needs is being translated today by the rise in the number of communicating terminals (estimated to be, by the end of 1984, some 350,000 ASCII terminals and some 360,000 Minitel terminals), which should total some 1.7 million units by the end of 1985. The increase in power of data processing units and of their front-end facilities necessitates, for its part, data transfers at high bit-rates (exchanges of files, remote loading, etc). On the other

hand, the introduction of interconnected office automation and the advent of automatic voice-data switching and local networking require the use of digital channels and of access interfaces to the different services.

Transparent Transmission of High Bit-Rates

The changeover to the ISDN thus provides a solution to the current diversification of services without having to double up the existing infrastructures, as had to be done in past cases (switched network, specialized leased facilities, Transmic and Transpac). Another advantage of a unified solution lies in the easier connection resulting from a standardization that is the most international possible. From this standpoint, the DGT is working within the CCITT to define compatibilities, particularly at the European level (X 25, Teletel, Teletex and, very soon, Architel).

From the technical standpoint, the ISDN uses the digitalized terrestrial network and the Telecom-1 satellite to supplement the geographical coverage of the terrestrial infrastructure. In addition to its telephonic and video functions, the satellite also provides the TDMA [Time-Division Multiple-Access] system for the switching of high-speed data. This infrastructure, therefore, will provide a gamut of five digitalized services between now and the end of 1985. Transfix service will provide full-time, medium- and high-speed (48 Kbits/sec to 2 Mbits/sec) digital links for remote data processing. Transcom service, to be opened during the second half of 1985, will provide switching of 64-Kbit/sec data bit streams on the present telephone network. Transdyn service, beginning around year-end 1984, will provide medium-speed (2.4 to 64 Kbits/sec) data facilities and, between now and the end of 1985, will be extended to provide dynamic switching of data bit streams of up to 2 Mbits/sec. Two other services are also planned, with the extension of the present teleconference service to include video-conferencing at 2 Mbits/sec, and the development of videocommunications. From a commercial standpoint, the opening of ISDN services should result in a sizable lowering of communications costs. Thus, for 64-Kbits/sec lines, the tariff rate (per bit) should be four times less than the rate for the same traffic on the analog telephone network.

Digitalization Progress

Our domestic telecommunications network, the terrestrial component of the ISDN, is considered the world's most extensively digitized network. From a switching standpoint, over 50 percent of our toll centers will be time-division switched by the end of 1985 and close to 45 percent of all subscriber equipment will be digital. Transmission-wise, 60 percent of all local lines (including urban trunks) use digital systems. In the long-distance sector, the speedup of the putting in service of 140-Mbits/sec arteries should result in a 40-percent level of digitalization by the end of 1985.

9399
CSO: 5500/2555

'NADIR' PROJECT OF CNET, INRIA SEEKS SATELLITE APPLICATIONS

Paris ZERO UN INFORMATIQUE HEBDO in French 15 Oct 84 p 42

[Article by ES]

[Text] The "Nadir" pilot project has been, since February 1981, a program of experimental research on new data-processing applications made possible by telecommunications satellites, and more specifically, Telecom-1.

Financed in equal parts by the Ministries of Industry and PTT, and placed under the prime-contractorship of the INRIA [National Institute of Research in Data Processing and Automation] and CNET [National Center for Telecommunications Studies], this pilot project is presently staffed by 30 engineers and researchers. Its equipment includes three Mini 6's and three SM 90's, which can be interconnected with each other by the Anis satellite link simulator developed by the ATNE [expansion unknown] company.

For experiments on a live-operational basis, these equipments are connected to Telecom-1 via four 64-Kbits/sec links and two 2-Mbits/sec links.

Based on a combination of basic research and experimentation done under this pilot project, a number of applications have been developed. Some were demonstrated during the SICOB [Exposition of Office and Business Supply Industries and Office Organization]:

--Cargo: This application for the transfer of high-speed data was demonstrated at the SICOB, using two Mini 6's communicating with each other via Telecom-1 at a speed of 512 Kbits/sec.

It uses a point-to-point carrier protocol developed by Nadir and characterized, in particular, by a system of absolute numbering of frames, enabling totally selective error checking and recovery during or at the end of a transmission.

--Tropics: This application for acquisition and transport of images was developed in cooperation with the Syseca company and on the basis of the needs of the SYGMA PRESS AGENCY.

It is built around two SM 90's communicating with each other via Telecom-1 at 64 Kbits/sec, and is equipped with image memories developed by INRIA and a digitalized linear acquisition camera industrialized by Digital Design.

--Medina: Developed jointly with the Steria company, the Medina demonstration setup consists of the interconnection of intra-company videotex message terminals via a satellite broadcast channel, using multipoint protocols with satellite return paths, developed by Nadir.

--Decentralized management of distributed stocks: This application, tested with SEMA [Applied Mathematics Research Company], consists of maintaining a systematically integrated control of stores at variously located points of sale. It uses a unidirectional distribution protocol.

--Mass-storage transfer: The purpose of this application is to implement the mass-storage transport protocol designed jointly by Bull and Nadir, and to supplement this transport by providing access to the mass-storage. This is done using a hybrid machine by Bull that combines the functions of the Datanet and of G-COS 6 Model 400.

--File transfers: This project is aimed at interconnecting, by means of 2-Mbits/sec links, the CISI-AEC [International Data Processing Service Company-Atomic Energy Commission] Hyperchannel network with a front-end machine at the ECNR [European Center for Nuclear Research], initially, then directly with the Cernet network. The interlinkings will be implemented using SM 90's.

9399
CSO: 5500/2555

BRIEFS

REMOTE SENSING FUNDED--Toulouse--Mr Bied-Charreton, official representative of the MRE [Ministry of Foreign Relations], disclosed at Toulouse on 11 October that the Cooperation Services of the MRE had devoted 16 million francs to remote sensing activities during 1984. "To this sum," he said, "should be added the MRE's activities with respect to the big industrial and scientific organizations, the training of foreigners, and the support of infrastructures." The Cooperation Services of the MRE work with some 30 countries, 5 international organizations (UNESCO, FAO, NOAA, etc...), and the interregional organizations. The MRE's activities, centered to the extent of 55 percent on the African continent, 30 percent on Southeast Asia, 18 percent on Latin America, and 5 percent on the Middle East [percentages as published], are aimed at enabling countries interested in partaking of remote sensing to attain utmost self-sufficiency in the mastery of this technique. [Text] [Paris AFP SCIENCES in French 18 Oct 84 pp 51-52] 9399

TDF-1 COSTS, COVERAGE--Cannes--TDF-1, the cost of which is estimated at 2 billion francs, will be able to broadcast regularly four television programs, which can be received directly by individuals equipped with a 70-cm parabolic antenna. These antennas, manufactured by Thomson and Philips, should cost around 2,000 francs each. Two of these programs--one in French, the other in German (the zone of reception of TDF-1 will cover the FRG)--will be turned over to the CLT [Luxembourg Television Broadcasting Company] which operates the RTL [Luxembourg Radio Broadcasting and Television System]. An agreement between France and Luxembourg to this effect is to be signed on 26 October, prior to its submittal to the Parliaments of the two countries, according to Mr Fillioud. The remaining two channels will combine--in accordance with a formula that has not yet been fully defined--new public-service type programs and French-language and European programs. [Excerpt] [Paris AFP SCIENCES in French 18 Oct 84 p 50] 9399

CSO: 5500/2555

BRIEFS

RADIO-TELEVISION PROTOCOL WITH USSR--A working cooperation protocol has been signed between Hellenic Radio and Television (ERT) One and Soviet Radio Television to broaden cooperation. Enver Mamedov, first deputy chairman of State Committee for Television and Radio Broadcasting, and Lev Korolev, chief of the foreign relations department of the State Committee for Television and Radio Broadcasting, arrived in Greece on 13 December at the invitation of ERT One. The working protocol, which was signed by ERT One Director General Vasos Mathiopoulos, envisages better and more effective implementation of the 1982 agreement signed between ERT One and Soviet Radio Television in Moscow in 1982 and includes program exchanges and joint participation in festivals and productions. [Text] [Athens Domestic Service in Greek 1930 GMT 14 Dec 84 NC]

CSO: 5500/1014

PREMIER SEES 'GOOD CHANCE' FOR CORONET PROJECT

Luxembourg LUXEMBURGER WORT in German 8 Dec 84 p 3

[Text] On the occasion of Friday's press conference yesterday following the meeting of the Cabinet, President Jacques Santer went into the problem of the satellite planned by Luxembourg by repeatedly stressing the fact that "the prospects for an effective realization of the Coronet project are better than ever before." According to him, namely, all existing uncertainties were settled by the political agreement signed with France last 26 October, and the framework was carefully worked out. The President stated that Coronet-promoter Clay Whitehead had recently assured him that there was still ample freedom in order to complete the GDL project without infringing on the competition clause contained in the French-Luxembourgian treaty.

In order to make Coronet a reality, besides procuring more financial backers--Jacques Santer says: "I am grateful to anybody who brings a new investor"--the registry of the [up- and down-link] frequencies in Geneva is certainly still one of the most important prerequisites. With regard to this, the premier is also pushing for definitive structures for Coronet; otherwise, Luxembourg might run the risk that the frequencies to which it is entitled might be allocated to another country during the World Administrative Radio Conference to take place in June of next year.

Likewise the state minister insisted once more in making it clear that the GDL satellite is not intended only for television transmissions, but also (and not lastly) for telecommunications which would directly benefit Luxembourg's finances.

When Jacques Santer was asked about the appointment of a new president for the "Compagnie Luxembourgeoise de Telediffusion" (CLT) about which quite a few conjectures had been made recently, especially in some international press organs (Pierre Werner or Gaston Thorn?), he (Jacques Santer) made it unequivocally clear that CLT/RTL already had a president and that there was no danger that he would be replaced immediately ("There's no harm in waiting"). And the Premier concluded his remarks with the comment that there was a traditional balance in the structures of CLT and that he could not imagine a president being elected without the approval of the government of Luxembourg.

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AGENCY HEAD PROMISES LESS REGULATION, MORE COMPETITION

Oslo AFTENPOSTEN in Norwegian 5 Dec 84 p 33

[Article by Ulf Peter Hellstrøm: "Telematics Tug-of-War"]

[Text] The Telecommunications Agency will continue to be organized as a management concern.

A public competitive arm into the telecommunications and data processing markets will be placed directly under the Telecommunications Agency, but will get a limited role.

The regulations for cable development will be tightened so that the Telecommunications Agency's role as a competitor of private antenna installers and cable companies will be limited.

The rules for receiving satellite television in Norway will be simpler.

According to what AFTENPOSTEN has learned, these are some of the main items of a proposal for untying the package which is now being discussed in government circles in connection with the discussion of the telematics report. According to the schedule, the Storting report will be finished around the turn of the year, and future telecommunications operations in Norway are now being discussed in government conferences. The decisions which are being made these days regarding the future organization of telecommunications operations in Norway and the scope of public monopolies will produce chain reactions for the data processing and telecommunications industry here at home for the years to come.

A solidly constructed draft of the telematics report in which all points at issue are settled and ambiguities clarified has still not been discussed by the government. The political leadership in central ministries has recently worked on central questions in the Storting report in order reach agreement, such as is normal in such matters. The discussion in the government can produce new changes. Well informed sources inform AFTENPOSTEN that both cable development and media policy questions have been drawn into the discussion of the telematics report.

It has been a tug-of-war between the Center Party--which controls the Ministry of Transport and Communications--and involved ministries which are led by cabinet ministers from the Conservative Party in the telematics case. This especially concerns to what extent the public sector is to partake with its own operations in the data processing and telecommunications markets, and the relationships between this competitive, public concern and the Telecommunications Agency as a monopoly institution.

According to what AFTENPOSTEN has learned, the Conservative Party now seems to be willing to let the public play a certain role in part of the markets for data processing and telecommunications which are today covered by private industry. The reason is fairly broad agreement in government circles that the telecommunications monopolies have to a considerable extent been overtaken by technological development and consequently must be liquidated. Demonopolization will probable include selling of inter-office exchanges, which traditionally have been included in the Telecommunications Agency's monopoly. However, the Telecommunications Agency is still to have exclusive rights for development of the telecommunications network.

The Telecommunications Agency already today has the Telecommunications Agency Business Internal Communications (TBK) project, which sells, among other things, computer terminals, telefax equipment, etc. According to what AFTENPOSTEN has learned, the situation is that TBK will get the go signal to establish itself permanently as a private corporation, but that the new concern will have a limited role. TBK will not get the go signal to become a production concern--something the leaders of the project, incidentally, also did not want--and restrictions can also be added to TBK's role in the market for purely computer equipment, like terminals and entertainment electronics.

The tug-of-war regarding whether the Telecommunications Agency or Ministry of Transport and Communications is to own TBK appears to be ending with the fact that TBK and the majority of employees will have their wish fulfilled by the concern's being placed under the Telecommunications Agency. Individual industry associations together with business organizations like the Industry Federation, the Bank Association and the Shipping Company Federation have cautioned against this on account of the risk that the parent company's monopoly revenues will be able to be used to subsidize the competitive business. However, the Storting report will contain distinct definitions on this point, also in relation to the recommendations from the Telecommunications Committee and the Stette Committee. A consultant's report from the celebrated Arthur Andersen auditing firm has been brought in here.

The provisional regulations for development of cable television have also been brought into the discussion of the telematics report. According to what AFTENPOSTEN has learned, the final regulations will be tightened so that the Telecommunications Agency will be instructed in even clearer words to keep to its traditional role as the developer of telecommunications. At the same time, at a later time liberalization of the rights system for the reception and relaying of satellite television, including from today's communications satellites, will be approached. Private companies will get permission to own the equipment which receives satellite signals.

A majority of the Stette Committee advocated that the Telecommunications Agency should be organized as a corporation after the Statoil model. According to what AFTENPOSTEN has learned, this proposal has been more or less abandoned now, and the Telecommunications Agency will continue to be a management concern, but with expanded authority, in questions of wages, among other things.

Telecommunications Director Kjell Holler and his board of directors will receive expanded authority, but will remain a management concern, first and foremost.

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TELECOMMUNICATIONS DIRECTOR TELLS AGENCY GOALS, PROBLEMS

Oslo AFTENPOSTEN in Norwegian 20 Dec 84 p 34

[Article by Ulf Peter Hellstrøm: "General Director Kjell Holler: Waiting Lines for Telephones Gone"]

[Text] The waiting lines for telephones are now as good as gone, while delivery times for important data processing services for business have gotten longer. Telecommunications Agency General Director Kjell Holler pointed this out during a press conference on Wednesday.

The record-large net profit of nearly 1.4 billion kroner from total net receipts of 8.9 billion has resulted in the fact that the Telecommunications Agency in 1984 will finance a whole 84 percent of its investments of 3.3 billion kroner by means of the service's current receipts. On Wednesday the Telecommunications Agency officially started the new personal information retrieval service in Norway.

Near the end of 1984 there are only 600 people on the waiting list for a telephone. The waiting lists were longest in 1979, when 94,000 people were waiting for a telephone. The net increase in principal subscribers will probably be 103,000 this year. The record here is from last year, with 126,000 new principal subscribers.

Holler tells AFTENPOSTEN that he is very satisfied with the economic growth of the Telecommunications Agency. "Growth toward a profit-making concern has stimulated those employed in the service," the general director says.

With a net gain which will probably be 1.387 billion kroner, the Telecommunications Agency will increase its profit by almost 300 million kroner as compared with last year. The service is now aiming at almost 100 percent of investments being financed by current receipts in 1990. This will reduce the burden of the heavy capital costs which the service has struggled with for a number of years, in the form of large interest payments on its loans. As early as 1992-1993 and up into the 90's the reduced debt burden will be able to result in lower rates.

Total productivity in the service increased by 4.8 percent in 1984. It is especially the labor force's productivity which has contributed to the fact

that the Telecommunications Agency for the fourth year in a row has an improvement in productivity of over 4.5 percent.

Holler hinted during the press conference that the service's management anticipates personnel reductions of 2000 to 3000 people during the years ahead to 1990. This year the service is doing 18,000-odd man-years, and is one of the largest employers in Norway. Holler figures that the gradual reduction will be able to take place in the form of attrition.

The Telecommunications Agency's worst headache is the draining of highly skilled technical personnel to the financially strong private computer and telecommunications industry. Just over the course of the first 11 months of the year the Telecommunications Agency lost over 50 degreed engineers.

Technical Director Ole Petter Håkonsen makes no secret of the fact that this can endanger the further development and modernization of the telecommunications network and new services.

Delivery times for equipment and connection to the Datex public data processing service are displaying not too favorable development, Holler said during the press conference. In the fourth quarter the delivery time is at 58 days. Here the Telecommunications Agency points, among other things, to the problems of private subcontractors in keeping to their schedules. The shortage of components in the international electronics industry has delayed products.

Håkonsen figures that development of the network for integrated data processing services--the so-called ISDN network--will get under way little by little as of 1988 here at home. This network will gradually be expanded and will link digital inter-office exchanges with the new public digital telephone exchanges.

The network will make it possible to transmit both speech, text and data. The start of the development of lines for the transmission of live pictures will probably come during the 1990's.

The Telecommunications Agency Business Internal Communications (TBK) operation is now in the process of being separated both organizationally and in terms of accounting from the Telecommunications Agency base organization. The figures for this project's operations for 1984 are not yet available, but Project Leader Jan Engebretsen said there is hardly reason to believe that TBK will end up with a bottom line which is very worse than for the rest of the Telecommunications Agency. According to the plan, TBK is to be separated as a private corporation owned by the Telecommunications Agency in order to compete in competitive markets.

The new personal data retrieval service which Holler initiated uses the telephone number 096 and a five-digit search number. The service is dimensioned for up to 60,000 subscribers and the system's radio stations will be able to handle up to 20,000 calls per hour, Assistant Technical Director Ole Johan Haga said. The service estimates that the number of subscribers can reach 10,000. The service will cover areas of the country where 60 percent of the people live.

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MOBILE PHONE SYSTEM SOON TO COVER ENTIRE COUNTRY

Oslo AFTENPOSTEN in Norwegian 14 Dec 84 p 4

[Article by Ola Hesstvedt: "Mobile Telephone Soon Countrywide"]

[Text] Bodø, 13 December. The mobile telephone is steadily "eating its way" farther north into the country. Today the system can be used to Bodø, but before 1 July the Telecommunications Agency is to see to it that everything is included except for interior parts of Finnmark Heights, which must wait to the fall. "We unfortunately come last, but should be first because of the great distances," Northern Telecommunications District Director Sigurd Wolden said at a press conference in Bodø on Thursday.

Experiences up to now have shown that the need for the mobile telephone is considerable in North Norway, and the Telecommunications Agency has learned a lesson from the fact that especially in East Norway there is too little capacity in proportion to the demand among motorists and others who need a telephone as a traveling companion. "We see that this will be popular and we are constructing an adequate network," Wolden said.

According to the plans, the Harstad and Leknes telecommunications districts will be hooked up to this Nordic Mobile Telephone System (NMT) on 1 February. The month after, the northern section of the Bodø telecommunications district will be added, April is the date for Tromsø and Hammerfest, while the Vadsø telecommunications district will be connected on 1 July. In the initial phase coverage will include the most important traffic arteries and major densely populated areas, it was reported.

District Director Sigurd Wolden presented figures which clearly say that the Telecommunications Agency has made considerable progress in our three northernmost counties last year. "It is we who are improving the most rapidly in the country, and four or five of our telecommunications districts top the service list on a countrywide basis," he stated.

In 1984, 12,000 more received telephones in this section of the country, and there are now waiting lists in just individual areas in North Troms. Net income increased by 15 percent, whereas expenses rose by only 5.5 percent last year. These figures demonstrate that the Telecommunications Agency's

operations in the north are contributing considerably to the service's increases in productivity in recent times.

But, North Norway is indeed last in line in the telecommunications sense, and this is true also of telephone automation. However, the goal is being neared by leaps and bounds. This year the municipalities of Kvaenangen, Kåfjord, Storfjord and Lyngen were completely automated. Now remaining are Karlsøy and half of the users in Balsfjord. These approximately 1700 sets will be automated before the fall of 1985, so in three quarters of a year's time a milestone will have been reached for the telephone in Norway: The entire network will be able to be reached directly.

All the same, the situation in the Northern Telecommunications District is not entirely rosy. When just Narvik in a few years has the job of a national exchange with 011 services it will be difficult to procure work for the approximately 125 people who will be out of a job in Bodø and Tromsø, among others. The Telecommunications Agency has the responsibility of procuring new jobs for these people. Another problem is that people telephone quite a bit during the time when it is least expensive to call. Traffic in the network mounts up in the evening hours and makes it difficult to get through. The telecommunications chief in Bodø, Tore Dyrkorn, is worried that vital calls are prevented in this way.

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BRIEFS

TELEVISION FOR SVALBARD STARTS--Bodø, 13 December. December 22 is the date for the approximately 400 TV subscribers on Svalbard. As of this day the people on Svalbard will stop having to be content with week-old video cassettes by plane from Tromsø. They will be able to receive programs directly. Thereby all of Norway will be on an equal footing with respect to TV offerings from NRK [Norwegian Broadcasting Service]. Everything is almost ready for the event next Saturday, and both FM channels to Svalbard will also be opened simultaneously with the connection. The signals will go from Kjeller to Isfjord Radio and further to Longyearbyen. However, they will go only in this one direction; so direct broadcasts cannot take place from the island group to the mainland. The quality will be just as good as in North Norway under normal weather conditions, and the pictures will arrive just a half second later. [Text] [Oslo AFTENPOSTEN in Norwegian 14 Dec 84 p 4] 8985

TELEPHONE INSTRUMENTS COMPETITION--More telephones. The government has now opened the doors to free competition for sales of telephone sets. That is, all manufacturers who have their telephones approved with respect to type by the Ministry of Transport and Communications can market and sell their sets in shops. This was clarified when Transport and Communications Minister Johan J. Jakobsen on Tuesday presented the government's recommendation regarding future telecommunications operations in Norway. Up to now the Telecommunications Agency had exclusive rights for selling telephone sets here at home. In reality, Elektrisk Bureau has had a monopoly on supplying telephone sets to the Norwegian market, because the Telecommunications Agency chose EB's sets each time after the submission of bids. [Text] [Oslo AFTENPOSTEN in Norwegian 12 Dec 84 p 32] 8985

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